

§ 12.32

(c) *Height above streambed* means:

(1) For a dam with a spillway, the vertical distance from the lowest elevation of the natural streambed at the downstream toe of the dam to the maximum water storage elevation possible without any discharge from the spillway. The maximum water storage elevation is:

(i) For gated spillways, the elevation of the tops of the gates;

(ii) For ungated spillways, the elevation of the spillway crest or the top of any flashboards, whichever is higher;

(2) For a dam without a spillway, the vertical distance from the lowest elevation of the natural streambed at the downstream toe of the dam to the lowest point on the crest of the dam.

(d) *Gross storage capacity* means the maximum possible volume of water impounded by a dam with zero spill, that is, without the discharge of water over the dam or a spillway.

(e) The Director of the Office of Energy Projects Licensing may, for good cause shown, grant a waiver of the 10 year requirement in paragraph (a)(2) of this section. Any petition for waiver under this paragraph must be filed in accordance with §1.7(b) of this chapter.

[Order 122, 46 FR 9036, Jan. 28, 1981, as amended at 49 FR 29370, July 20, 1984]

§ 12.32 General inspection requirement.

In accordance with the procedures in §12.35, the project works of each development to which this subpart applies, excluding transmission and transformation facilities and generating equipment, must be periodically inspected and evaluated by or under the responsibility and direction of at least one independent consultant, who may be a member of a consulting firm, to identify any actual or potential deficiencies, whether in the condition of those project works or in the quality or adequacy of project maintenance, surveillance, or methods of operation, that might endanger public safety.

§ 12.33 Exemption.

(a) Upon written request from the licensee, the Director of the Office of Energy Projects Licensing may grant an exemption from the requirements of this subpart in extraordinary cir-

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cumstances that clearly establish good cause for exemption.

(b) Good cause for exemption may include the finding that the development in question has no dam except dams that meet the criteria for low hazard potential as defined by the Corps of Engineers in 33 CFR part 222.

[Order 122, 46 FR 9036, Jan. 28, 1981, as amended at 49 FR 29370, July 20, 1984]

§ 12.34 Approval of independent consultant.

At least 60 days before the initiation of an inspection under this subpart, the licensee must submit to the Director of the Office of Energy Projects Licensing for approval, with a copy to the Regional Engineer, a detailed resume that (a) describes the experience of the independent consultant; and, (b) shows that the consultant is an independent consultant as defined in §12.31(a).

[Order 122, 46 FR 9036, Jan. 28, 1981, as amended at 49 FR 29370, July 20, 1984]

§ 12.35 Specific inspection requirements.

(a) *Scope of inspection.* The inspection by the independent consultant shall include:

(1) Due consideration of all relevant reports on the safety of the development made by or written under the direction of Federal or state agencies, submitted under Commission regulations, or made by other consultants;

(2) Physical field inspection of the project works and review and assessment of all relevant data concerning:

(i) Settlement;

(ii) Movement;

(iii) Erosion;

(iv) Seepage;

(v) Leakage;

(vi) Cracking;

(vii) Deterioration;

(viii) Seismicity;

(ix) Internal stress and hydrostatic pressures in project structures or their foundations or abutments;

(x) The functioning of foundation drains and relief wells;

(xi) The stability of critical slopes adjacent to a reservoir or project works; and

(xii) Regional and site geological conditions; and

(3) Specific evaluation of:

- (i) The adequacy of spillways;
- (ii) The effects of overtopping of non-overflow structures;
- (iii) The structural adequacy and stability of structures under all credible loading conditions;
- (iv) The relevant hydrological data accumulated since the project was constructed or last inspected under this subpart;
- (v) The history of the performance of the project works through analysis of data from monitoring instruments; and
- (vi) The quality and adequacy of maintenance, surveillance, and methods of project operations for the protection of public safety.

(b) *Evaluation of spillway adequacy.* The adequacy of any spillway must be evaluated by considering hazard potential which would result from failure of the project works during flood flows.

(1) If structural failure would present a hazard to human life or cause significant property damage, the independent consultant must evaluate the ability of project works to withstand the loading or overtopping which may occur from a flood up to the probable maximum flood or the capacity of spillways to prevent the reservoir from rising to an elevation that would endanger the project works.

(2) If structural failure would not present a hazard to human life or cause significant property damage, spillway adequacy may be evaluated by means of a design flood of lesser magnitude than the probable maximum flood, if the report of the independent consultant pursuant to §12.37 provides a detailed explanation of the bases for the finding that structural failure would not present a hazard to human life or cause significant property damage.

§ 12.36 Emergency corrective measures.

If, in the course of an inspection, an independent consultant discovers any condition for which emergency corrective measures are advisable, the independent consultant must immediately notify the licensee and the licensee must report that condition to the Regional Engineer pursuant to §12.10(a) of this part.

§ 12.37 Report of the independent consultant.

(a) *General requirement.* Following inspection of a project development as required under this subpart, the independent consultant must prepare a report and the licensee must file three copies of that report with the Regional Engineer. The report must conform to the provisions of this section and be satisfactory to the authorized Commission representative.

(b) *General information in the initial report.* (1) The initial report filed under this subpart for any project development must contain:

- (i) A description of the project development;
- (ii) A map of the region indicating the location of the project development;
- (iii) Plans, elevations, and sections of the principal project works;
- (iv) A summary of the design assumptions, design analyses, spillway design flood, and the factors of safety used to evaluate the structural adequacy and stability of the project works; and
- (v) A summary of the geological conditions that may affect the safety of the project works.

(2) To the extent that the information and analyses required in paragraph (b)(1) of this section, are contained in a report of an independent consultant prepared and filed in compliance with Commission regulations in effect before March 1, 1981 the information and analyses may be incorporated by specific reference into the first report prepared and filed under this subpart.

(c) *Information required for all reports.* Any report of an independent consultant filed under this subpart must contain the information specified in this paragraph.

(1) *Monitoring information.* The report must contain monitoring information that includes time-versus-reading graphs depicting data compiled from any existing critical or representative monitoring instruments that measure the behavior, movement, deflection, or loading of project works or from which the stability, performance, or functioning of the structures may be determined.